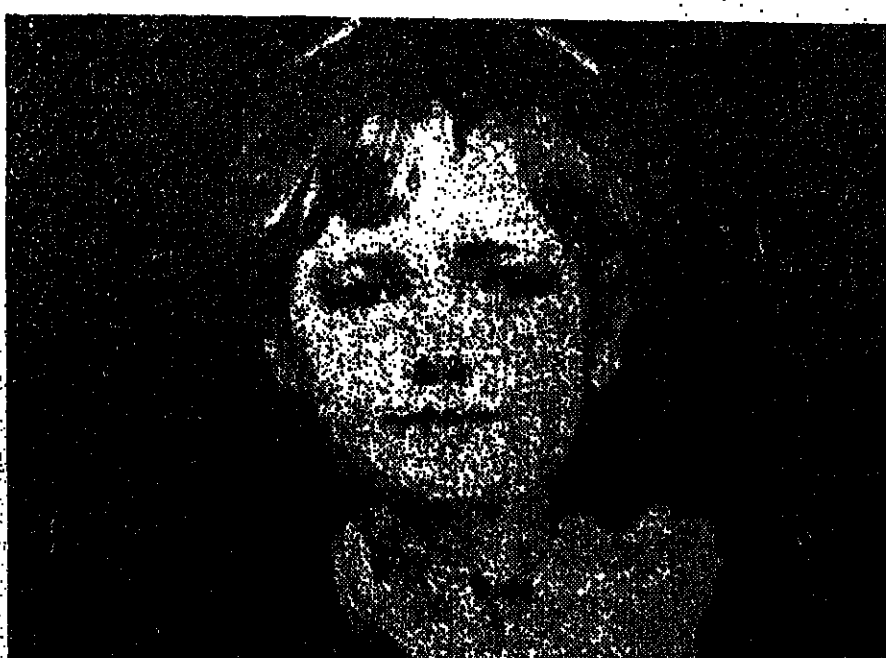


The vogue enjoyed by painter G.D. Mirea (1882-1934) was great at the turn of the 20th century, when Nicolae Grigorescu, the modern Romanian painting classic, was still alive. Endowed with remarkable qualities of a portraitist, ("Alexandru Odobescu", "Bogdan Petriceicu Hasdeu", "C.I. Stănescu") Mirea was to be placed in a more judicious scale of values as soon as firmer aesthetic criteria were acquired in the post-World-War-I fine arts criticism. The 20th-century critical consensus gave Mirea his due place in the development of Romanian painting, valuing his sense for historical compositions ("Michael the Brave Looking at Andrei Bărbănuș's Head"), while having some reserves towards a number of idealized portraits and conventional landscapes ("Virtut on Dor Peak", "Bacchante and Faun") and his declining academicism. Which only meant finding his right place in the strict connections of the Romanian fine arts evolution. Mirea was a gifted artist proving a remarkable skill in the execution of certain canvases and psychological insight, yet sometimes giving way to grandiloquence and monotonous formulas. Thus, Mirea's real vocation must be identified in a number of expression heads showing the spontaneity of his vision and frankness of the brush, in several tableaux vivants, landscapes with solar light effects, historical panoramas and mural decorations. For decades on end, Mirea was also the director of the Fine Arts School in Bucharest.

PAUL ANTIM ■

A few works by Romanian painter G.D. Mirea: Peasant Woman with Jug and Wooden Pail, Girl's Head, Portrait of Writer Alexandru Odobescu (top); Woman with Sun Shade in the Garden (left), Landscape with Lake and Girl's Head (right); Peasant Woman's Head and Shepherd (bottom).



ROMANIAN NEWS

INFORMATION AND COMMENTARY
WEEKLY PUBLISHED BY
THE ROMANIAN NEWS AGENCY
AGENCE PRES

IN ENGLISH AND
FRENCH. Editorial and
administrative office:
Bucarest, Bucharest
1100 80, Foreign readers
subscribe to the
Romanian News Agency
1100 80, Bucharest.
Bucarest, 81-82, Crizova St.

ROMANIAN NEWS

ELEVENTH YEAR
14 (523)
APRIL 8
1933
16 PAGES — 3 LEI

ROMANIAN-ZAIRIAN SUMMIT AN IMPORTANT CONTRIBUTION TO THE DEVELOPMENT OF FRIENDSHIP AND MULTILATERAL COLLABORATION TIES

At the invitation of the General Secretary of the Romanian Communist Party, President of the Republic, Nicolae Ceausescu, and of Elena Ceausescu, the founding chairman of the People's Revolution Movement, President of the Republic of Zaire, Mobutu Sese Seko Kuku Ngbendu Wa Za Banga, and Mme Bobi Ladawa paid an official friendly visit to Romania over April 4-6.

According to the official communiqué shared by Nicolae Ceausescu and Mobutu Sese Seko, the two party and state leaders informed each other of current concerns regarding their countries' growth, thoroughly surveyed ways and means of developing the friendly links between the two countries, parties and peoples, and exchanged opinions on the major international issues.

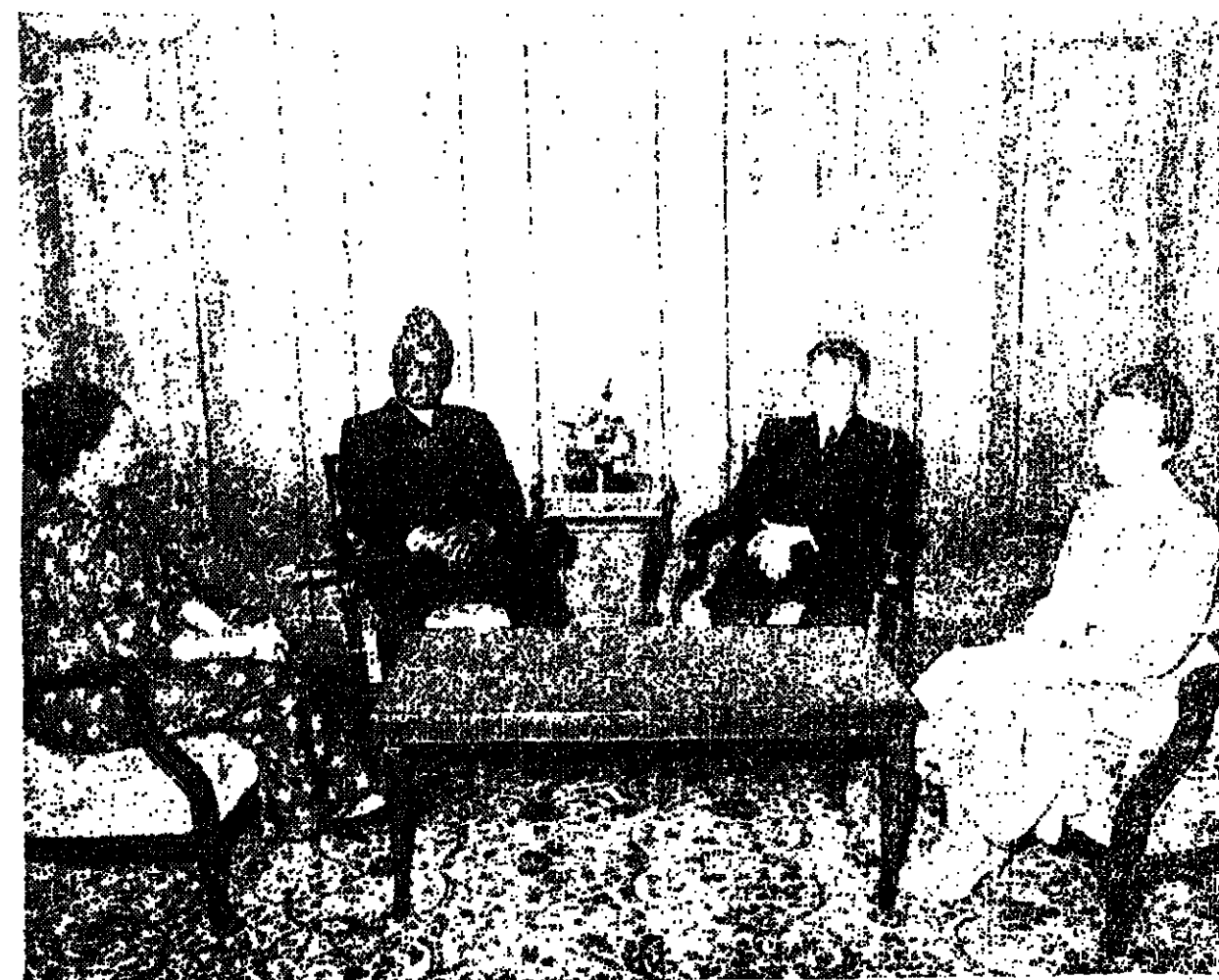
Stress was laid during the talks on the particular significance of the top-level meetings between Romania and Zaire, on the essential role of the agreed and understood reached on those occasions in the expansion of cooperation between the two parties and countries in areas of common interest. The joint wish was reiterated to most resolutely work to further broaden and diversify Romanian-Zairian ties, to give them perspective and stability on a political, economic, scientific and technical plane, and in the international arena.

President Nicolae Ceausescu and President Mobutu Sese Seko paid special attention to bilateral economic relations and underscored the need for a further balanced growth of trade. It was agreed that the relevant bodies of the two countries should work to this end. Likewise, it was agreed to speed up the finalization of negotiations on the carrying through of economic projects in oil, mining, industry, agriculture and other areas, stipulated in the programme agreement on the long-term growth of trade and of economic cooperation between Romania and Zaire signed in Kinshasa on April 1, 1968.

An aide-memoire on the further growth of economic and technical cooperation and of trade between the Socialist Republic of Romania and the Republic of Zaire was signed during the visit.

Surveying the international political and economic situation the President of Romania and the President

(cont. on p. 3)



ROMANIAN-PAKISTANI TOP-LEVEL TALKS

On April 7, at Karachi, talks were held among President Nicolae Ceausescu of Romania, Mrs. Elena Ceausescu and President Mohammad Zia ul-Haq of Pakistan.

In agreement, the sides pointed out that in recent years the collaboration between the two countries has proceeded favourably, leading to the successful conclusion of some new economic cooperation ventures and to the endorsement of measures which contributed to expanding the commercial exchange. The sides expressed the joint wish to further deepen and diversify the collaboration between the two countries.

Proceeding to an exchange of opinions on the international political and economic situation, President Nicolae Ceausescu and President Mohammad Zia ul-Haq noted, on this occasion too, that the two countries share identical or very close viewpoints and stand on the grave problems confronting mankind.

The presidents of the two countries considered that the fundamental problem of our epoch is to halt the arms race and firmly pass on to disarmament, nuclear disarmament in the first place.

They welcomed the accord between the USSR and the USA regarding the elimination of the intermediate and shorter range missiles, which is only a first step along the path of removing the huge stockpile of nuclear arms currently extant in the world. Romania and Pakistan consider that there is a firm need for new efforts to be undertaken for the elimination of the nuclear arms, for halting and finally the nuclear arms race, and for the elimination of the nuclear arms race, and for the elimination of the nuclear arms race.

(cont. on p. 3)





THE INEXHAUSTIBLE GREY GOLD

For over twenty years, the Romanian oil equipment has proved its top performance in the Sahara and Polar deserts, in the steppes and marshes, beyond the arctic circle, on five world continents. It functions irreproachably at 35°C below zero and 2,300 m altitude at the foot of the Himalayas. It exists in extreme conditions: some of the harshest conditions, high pressures and temperatures of 600°C, corrosive environments, sea marshes or uneven areas. Despite the contradictions of the oil market, the closing up of conventional oil fields, the depletion of the oil reserves of the world, more than half of the earth's surface has remained unexplored from this point of view. Therefore oil installations are needed. And naturally, Romania orients its export and consequently adapts its production toward oil fields in the Far East, the Middle East, the North and broad areas in People's China, the USSR (northern and eastern Siberia), Latin America, Africa, but, because most of the drilling works are concentrated with uneven relief areas, extreme climatic conditions, and great depths, the design and fabrication of a special oil equipment is needed, with higher performances.

then the one manufactured until now.

The Design and Research Institute for Oil Equipment in Moscow and the nine enterprises within the specialized central are operatively adapted to the varied demands of the market and the difficult conditions of oil fields.

The acknowledged equipment and installations, prized with gold medals at international fairs are re-designed and modernized, made of new steel resistant to corrosive agents, to polar colds, to humidity, to great stresses, are tested in order to render them more productive and reliable.

New and more attractive variants are obtained with a view to increasing their mobility, to rapidly transporting them, to easily mounting and dismantling them in the field.

Examples of such equipment are: for example F 330 SCUTTA drilling installation transported in blocks of 200 x 200 x 200 cm on crawling trucks or trucks with big wheels for the desert or cold areas and the one that can be carried in small packages by helicopter to the jungle where there are no access ways.

New installations are being developed with high mechanization degree, equipped with computers have been introduced in fabrication.

RACE TO THE CENTRE OF THE EARTH

At the turn of the century a 500-mi-low drilling was considered an all-time record. In the 1950s drilling at a depth of 4,000 m was a great performance — now, it is a matter of routine. 20 years ago specialists dared to claim that it was no use drilling at great depths because oil in a molecular state is destroyed lower than 7,000 m.

For quite a while deep drilling had a mainly scientific purpose: that of widening the sphere of knowledge concerning the earth crust and not the exploitation of its resources. The penetration of deeper layers is connected with money-wasting and hampered by a whole series of geological, technical and economic factors. The deeper the geological formation, the harder they get. Pressures, temperatures, gas atmospheres, layers of liquid sulphur, corrosive agents, temperatures of hundreds of degrees and many other unpredictable factors can compromise any well. Additional conditions are the lack of adequate materials, equipment and technologies and, naturally, a low efficiency. In case you have an easily exploitable surface deposit it is not worth the cost of design and construction of deep wells. Such a well includes: derricks strong enough to stand loads of hundreds of tons imposed by work at great depths, large quantities of drilling mud, not in motion the drilling mud, tubular material resistant to high temperatures, pressures and corrosion, resistant bits. That is a world-wide race to great depths. The Soviet Union has an outbreak of the energy crisis. But by then Romania had already not the upper hand because it had conducted research in the field long before the others.

DH, F 800—4 DH, already on the mass production list, were developed in the depth range between 5,000 and 8,000 m. Depth records set in Europe by 4 DH—318 (4,300 m) in 1975, 7,500 m in 1978 and 8,000 m deep drillings in 1979 in the GDR) the depth record of 5,500 m in Argentina, 1978, and 7,000 m in Romania in 1981 in Romania were not registered for the sake of performance. They meant an important gain in the field of professional experience, bringing up extremely precious data and accumulating a wide range of technical experience.

technical solutions. Romanian researchers have been concerned with designing competitive equipment able to drill at depths greater than 10,000 m in any conditions.

A world technical first, the F-900 installation (with a champagne-colored lead of 900 t as compared to 500 for the previous ones) is one of the most powerful drilling installations in the world. Its 2,500-hp power is the highest ever in performance. Thus a new family of pumps came into being. Their durability is 8-10 times greater than that of the existing types of up to 1,500 hp.

At the same time commissioned was another type of cementing, fracturing and acidizing mechanical equipment. It is the first new eruption-control equipment. Romanian crews bonding characteristics superior to those of the best considered high-tech equipment.

MIRCEA ROSCA

The images on this page illustrate a few "samples" from the complex activity undertaken by the oil equipment workers of Ploesti.

TECHNICAL JEWELS

The drilling bit is one of the most pretentious and in demand tool in the oil industry. A different type of drilling bit is used for each type of rock. But beyond this great diversity of types and dimensions this attacking front of geological layers must be resistant and should have a longer life. These qualities become imperative with the passage to the conquest of great depths.

High-ich, processing of great finesse, high-alloy steels, special treatments and a continuous research for new constructive solutions are needed for their fabrication.

Only a few firms in the world produce these technical jewels. In the modernly equipped factory within "I Mal" works in Ploiești the Romanians make drilling bits for all types of geological layers. New types of drilling bits with original construction are expertly made and constantly improved in fabrication here. (Until 1959 the USSR supplied 95% of the drilling bits to the country.)

Among the most valuable recent innovations there are drilling bits with sliding friction bearings and rolled bearings and drilling bits with retrievable bit legs (where used legs can be replaced with new ones mounted on the drilling bit's body).



5

GROWING VITAMIN C

Forty black-currant berries alone can provide the whole amount of vitamin C needed by man in one day. The same berries include, proportionately, more vitamin C than lemon.

And yet, the black currants, just like the fruit of other shrubs, were discovered by the food and pharmaceutical industries as late as the 1930s. Farming research stations all over Europe embarked on several researches into growing and metallizing raspberry, gooseberry, bilberry, black currant, box thorn, common elder and other bushes. Plants having a solid profile oriented their production towards the capitalization of so-called wild fruits.

Engineer Mihal Piyasol is a trailblazer in this field. Not only did he take his doctor's degree with a dissertation on this topic but he also organized (in his capacity as director) the seemingly vast and compact plantation of such fruit-bearing bushes on

the continent (800 ha) at Todiryt, Succava county.

What in the beginning appeared to many as an adventure, eventually proved to be a solidly sub-subsidized, very profitable undertaking. Engineer Pavlovskiy states that the climate of the podzol of Tondriki is poor, hardly suited for any other crop (notable harvests barely reach: 100 per cent. annually, the climate of the region is characterized by average precipitation standing at 700 mm per year, which favors the bushy vegetation and the decay of the principal argument was the existence in the surrounding landfills of a large reserve of workmen. This is quite important because in the work of the forest, there is about ten workers for every hectare of fruit-bearing bushes. So, there are 8,000 people working for the intertemporally economic desolation of Tondriki.

Engineer Pavlovskiy really be-

A GALOP OF TWO CENTURIES

The name of Shagya Araber, designating a horse breed, was the object of a long dispute. Many specialists opted for the name of Arab of Râdăuți, because it descended from the famous stallions Shagya X (b. 1899), XVII (b. 1903) and XXI (b. 1911), all of them grown at the stud farm of Râdăuți, in northern Moldavia.

Discussions on this theme were revived in 1983, at Verden, West Germany, on the occasion of an exhibit of Arabians bred in Europe which saw the creation of the Shagya Araber International Association.

Therefore, the town of Raddaull claims its priority in the formation of saddle and coach Arab horses currently grown in Denmark, Austria, Switzerland, Hungary, Germany, Poland, Yugoslavia, etc. There is certainly no Shagya Araber horse in the world whose pedigree should not include ancestors born at the stud of Raddaull.

Raddului was a real paradise for horses. The representative of the Imperial army, Joseph Kavalier, had bought 11,715 roubles in 1780 from this northernmost corner of Moldavia. The figure is impressive even today, being an evidence of the importance of the cantabian horse breeding. Joseph Kavalier leased almost 10,000 ha of arable land and pastures. Between 1785 and 1792 he built the stables and buildings of the administration. Several walls are still well preserved, integrated with the new constructions of Miller and Breilina.

The importance of the stud for the imperial army is proved by the constantly large number of horses, between five and six thousand. Thoroughbred and half-Arabian-half-English bred horses, Lipizan, Godran of a larger size and Hufut were grown in different sections, sometimes separated by scores of kilometres.



one day three trucks arrived, sent from three different partners. Each of them had a 20-ton capacity. One of the drivers, skeptical, wanted to leave: who could gather 60 tons of raspberries in one day? And yet in the evening all three trucks left filled to capacity.

Certainly the handling of such large amounts of highly perishable fruit poses numerous problems. Beyond each case of fresh fruit there is an intricate refrigerating network making the raspberries gathered in northern Moldavia reach Bucharest, Moscow, Paris or Vienna equally appetizing, juicy and flavoured. In summer, clearcut roads from Tordres!, from the heart of vitamin C crops, towards the country's localities and numerous European cities.

G. OSTROVEANU ■

SILK MAKERS

Among the measures taken for the development of agriculture in Romania, mention should be made of the intensive work on the cultivation of alfalfa. Improvement of the existing breeds and the creation of new genetic lines and to develop an intensive type of culture in industrial systems. Subjected to a systematic work, very 22 breeds of alfalfa. Over the last year Romanian researchers have managed to create valuable varieties of alfalfa. The use of alfalfa, as an A.S.R., played a technology for the production of super-ellie species, 3,300 super-ellie families were set up, belonging to a number of 11 different breeds of the current agricultural production. A great achievement of the work of the super-ellie families of the Phycodermis, which are alfalfa, is the discovery of a red-ellie leaves. Tested were systems of cultivation and winter-green alfalfa by using selected mother-leaves. A fruitful collaboration between agricultural and agricultural led to the establishment of the alfalfa type of leaf and several mother-leaves were studied with a view to expanding the production of big leaves with a larger content of proteinic substances.

But it is not only the Shagya Araber breed which owes its present structure and qualities to the Raddâk stud. There is also the Gedran breed, mainly known as a variety of half Anglo-Arabian blood. These beautiful chestnut-golden stallion Singlary-Gedran, born in 1810 in the Nadjûl plateau of Arabia was crossed, among others, with the 72 Fortuna mare, from the Kawi mountains. Their progeny, Gedran 15, numbered at the stud of Raddâk, gave birth to a long line of Gedran horses which were entered in to all the studs of the Austrian Empire.

After 390 years of nobility the stud farm of Raddant has built itself a solid prestige in the field of selection, exploration and qualification of pure bred horses.

Set up shortly after the annexation of Bukovina, an old Romanian territory, by the Hapsburgs (1874), the stud

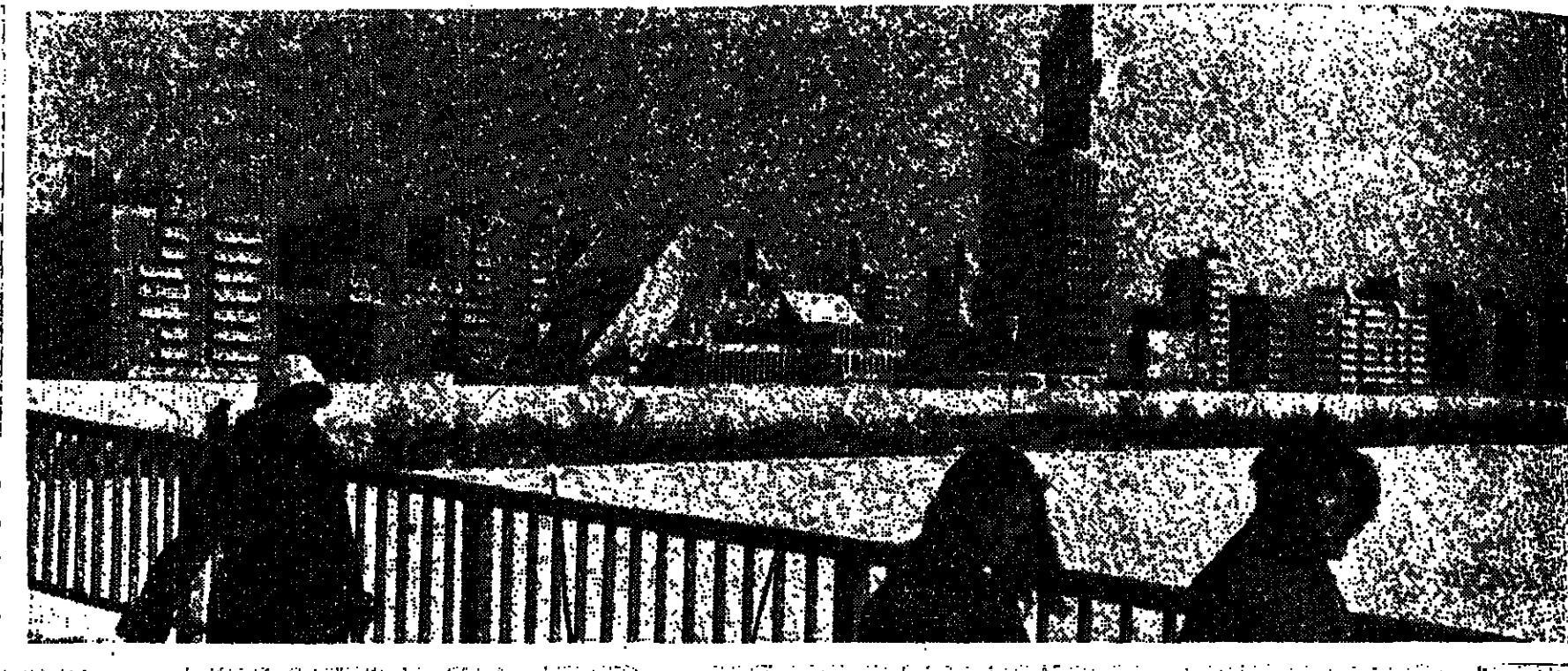
After the fall of the Empire, at the close of World War I, the town of Riddand alongside the whole province of Bucovina was ceded to Rumania. The stud continued actively, breeding over more horses. Breeders specialized mainly in the German breed, to the formation of a substantial configuration. Because a permanent exchange of remounts had been made among the stud of Riddand and the stud of Dobruja and Mesopotamia, much work was carried out on the German breed, both for increasing the size of the animals and for improving them by infusing Arabian blood and for obtaining the thoroughbreds and for gaining the nervous, flexible temper through Arabian stallions.

In the meantime, the Russian Araber breed found in the Russian stud and imported in a stud, achieving a better climate

O. GEORGHIEV



O. GEORGE



A CITY WITH WINGS

From whichever cardinal point you may look at the stronghold, even from outside it, you cannot miss the top of the tower, split in three verticals. It is as if, day or night, a beacon is watching to prevent people from getting lost in space.

The tower of Satu Mare guides you with assurance towards the new civic centre of the city, established on the right bank of

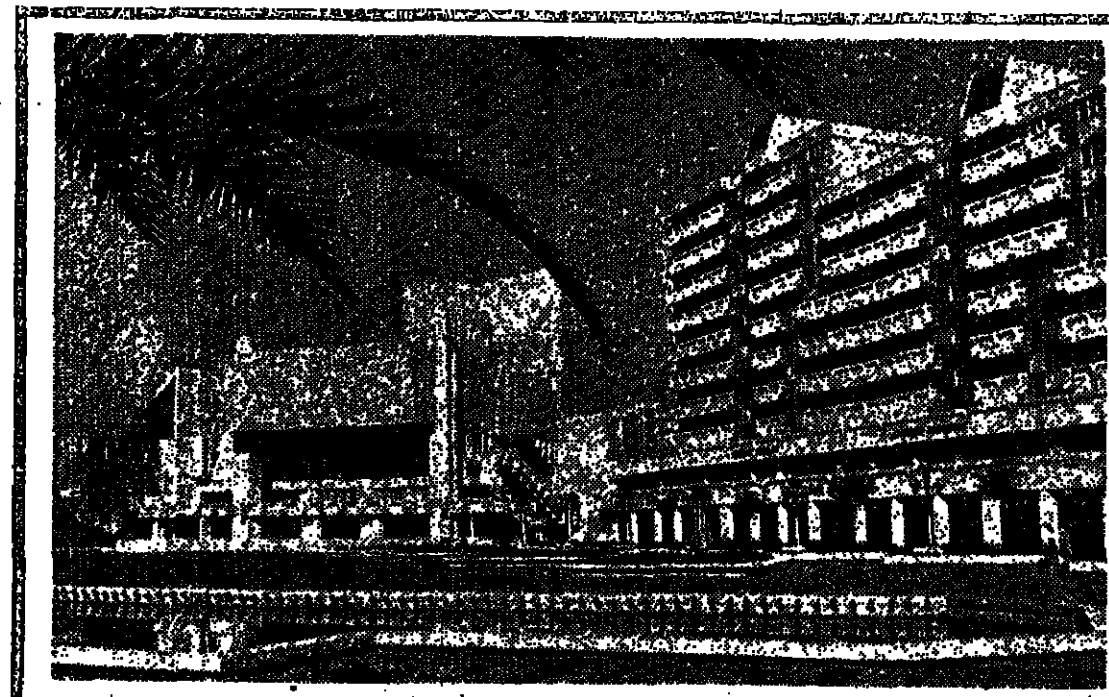
the river Someş. The architectural structure of the buildings bordering the new Central Square, is unlike anything you can see in other urban centres of the country. However, the knowledgeable visitor will discover in the suite of subtle nuances of the constructions the unmistakable presence of their author.

THE LARK'S FLIGHT

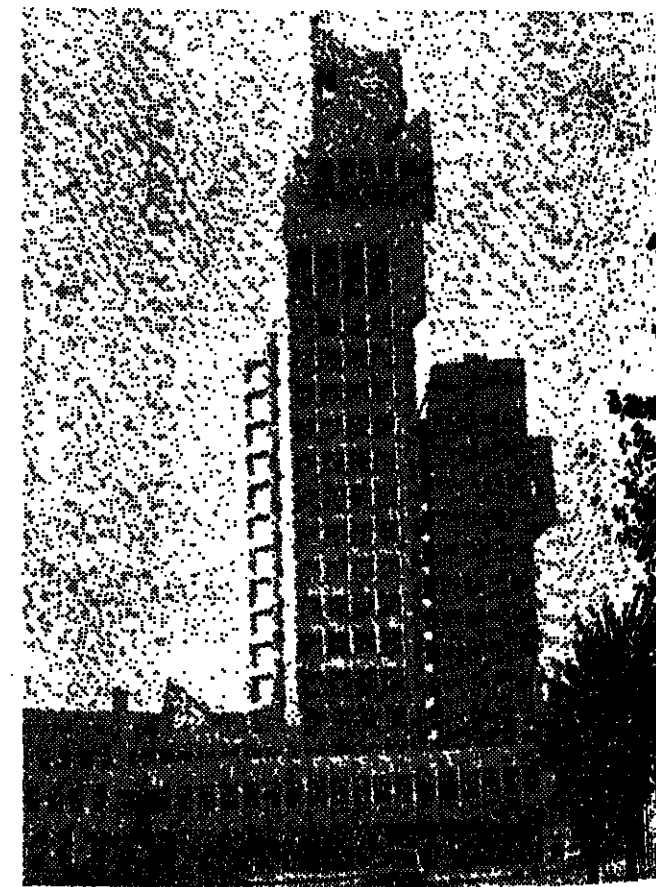
The one who conceived the new civic centre of Satu Mare is professor architect Nicolae Porumbescu. I had the unexpected chance (you shall promptly see why unexpected) of looking at his work with his own eyes, understanding once again the use of the science of look-

The extension of human communication is suggested, among other things, by the world-be amphitheatre imagined at a height of nearly 100 m. Concealed from sight, a room in the tower has been destined to preserve a few examples of the treasures unearthed by archaeological

excavations in this place, which reveal traces of civilization (going back to the upper Paleolithic) and the existence of settlements inhabited by the free Dacians in the 2nd and 3rd centuries AD. "Taken out of their primeval depths, these proofs must be scattered as far as possible into the future", my guide made clear to me the purpose of the treasure room in the tower of the new Palace.



The Political-Administrative Palace, 86 metres tall, with its tower which commands the distances is imposing and formal by at the same time. You discover it with every step you take. It is the same and yet ever different. But the change of perspective reveals the never-failing permanence of a pair of white wings stretched in flight. Architect Porumbescu, who proved a generous guide, urged me to dilate my attention: "Take a good look at it, the vertical is gained step by step. The sky is hardly touched. I did not design this building out of grandiosity. You see? The helix is decentered and purified, the rhythms of the palace resemble the lark's flight which descends towards the earth following the same path. We have measured our strength only against the lark's and Brancu's."



VIBRATIONS

Seen from outside, the Trade Unions House of Culture does not look as overwhelming in shape, also or complexly as its neighbour, the Political-Administrative Palace. Only after entering this House of Culture and spending enough time inside it (you cannot do otherwise) can you understand, admire and love it as it deserves. As soon as you step into the cloakroom foyer, the growing suite of white wings above your head, supported by concrete tree trunks, reveals itself to you. The sensation of grace, discreet sonority is contained also in the copper shields, in

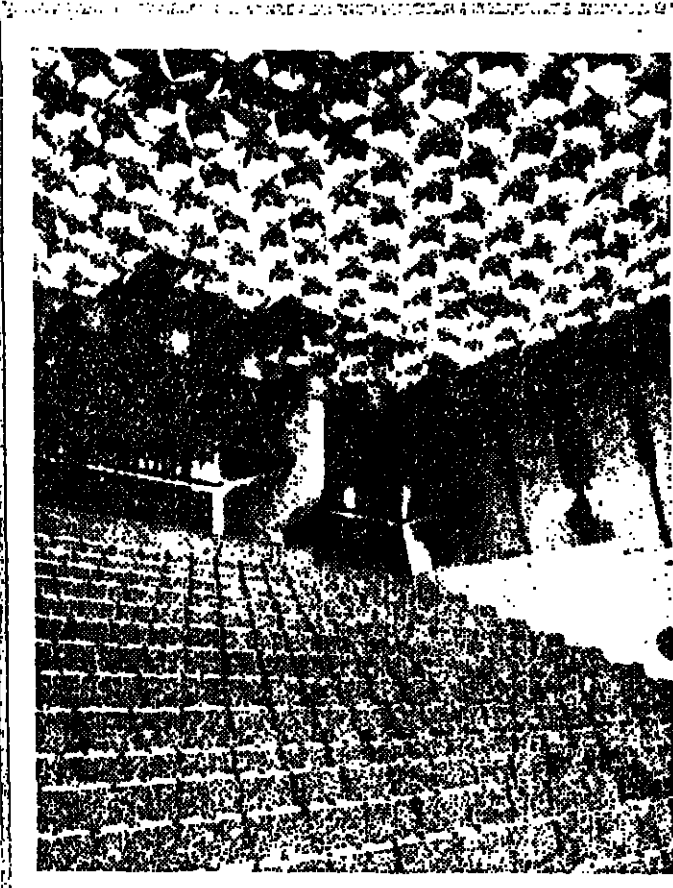
the glided discs which ride the walls with moderation. Let vibrations come from the (narrow) wooden beams, depicted with thin circular sculptures representing the permanence of the sun, the pulse of the forest, graphically printed on the wall paper of the perfect space hall, some of the ceiling — an intricate geometry in highwood. The lights are turned on in the vegetal honey combs, the ling seems to be the sky of another galaxy. Architect Porumbescu, watching my joy and excitement out of the corner of his eye, He interrupted my dreaming: "Look! The tree is weak the origin, the tree is strong. From place to place, the design in relief, the vitality of the tree is represented. There remains only a reasonable constant, which Porumbescu, pointing to me on the various levels, horizontal, you see the whole movement, in the building, a series of telescopic windows are quite are you in the street, people in the street, House of Culture."



THE RIVER

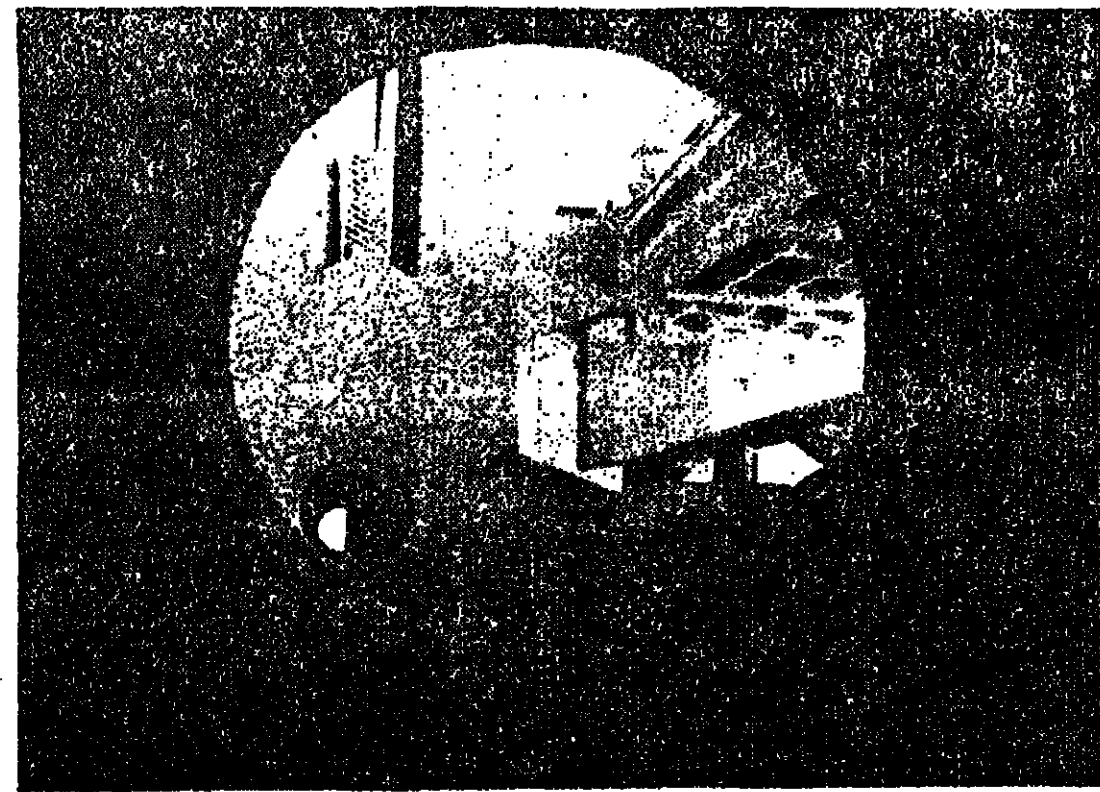
We returned to the new Central Square, with its refined pavement of gravel from the Someş river, black and white occasionally brightened up by white marble patches. My guide invited me to climb with him to the river. I looked at him, puzzled — one usually goes down to the river. He mysteriously showed me the stairs climbing on one side of the square and indeed, it was only when we got to the top of the stairs that the tumultuous river appeared at our feet. Architect Porumbescu pointed to the Someş and introduced it to me: "This river is the axis, a line which the city is structured! Look! It is 150 metres wide, a little less than the width of the Danube in Vienna. For a long time Satu Mare turned its back to the Someş — there are still a few small buildings on the opposite bank in this position. Now the time has come for the city to face its river. In 80 years, its population has doubled, it is no longer an ordinary provincial town, it has become an impressive vital force,

it has a defined personality, which it continually enhances. With a resolute gesture of his hand, he showed me the stretch of water between a new bridge and another, newer one (under construction): "There, on the left bank, there is a three-kilometre stretch of water with a suitable level. Above it lies a 40-hectare park — considering the size of the city, it is not a small park — the Greek amphitheatre has 4,000-5,000 seats, and is surrounded by the water coming from the Someş. The multi-purpose hall, the Puppet Theatre, the new hotel... a real city centre, an extension of the civic centre from the right to the left bank." The present tense he uses explains the gestures he makes locating the buildings, the park, the Greek amphitheatre. Architect Porumbescu does not view them in prospect, with his imagination, he sees them as if they were real. I interrupted him, somewhat abruptly: "When will all this be ready?" His reply was spontaneous and tonic: "Oh, in a few years, ten years at most!"



so that the reconstruction proper lasted until 1981. The simple linear buildings erected along the important streets, re-created the town according to the same street network. Quite unpretentious. Thanks to the administrative-territorial reorganization of 1968 when Satu Mare county was created (having as seat the town bearing the same name) the average rate of urban construction rose to 1,000 apartments yearly (compared to 200 apartments yearly in the previous period). Until 1970 Liberty Square was redesigned and the first apartment building was raised on unoccupied land. Since 1970 more and more apartment buildings have appeared on the left bank of the Someş, facing the river, contrary to the old custom. On the right bank, the year 1975 gave the first signs of a really daring town planning. These signs rapidly became the certitudes of a city in full progress, a city with wings.

The new town planning sketch — partially anticipated as a result by architect Nicolae Porumbescu — starts from the idea of a population of 153,000 compared to 133,000 inhabitants in 1967 and of a doubling of the overall industrial output. From these fundamental data (to which are added many other criteria) an equilibrated territorial distribution of the population will be achieved this century, the two areas — North and South — totalling 75,000 inhabitants each. As a distinctive element the bordering was pro-



1,000 YEARS

In 1972, the town of Satu Mare celebrated its 1000th anniversary (since its documentary attestation). Nevertheless this old town (mentioned for the first time in Anonymous' chronicle) had an evolution with se-

veral ups and downs. Located on the Someş river, the settlement used the sinuous meanders of the river as a defence means, but was not spared, at the same time, from devastating floods. Over the centuries, its

General view and details of the architectural style of Satu Mare's new Civic Centre. Top, right; architect Nicolae Porumbescu, a university professor.

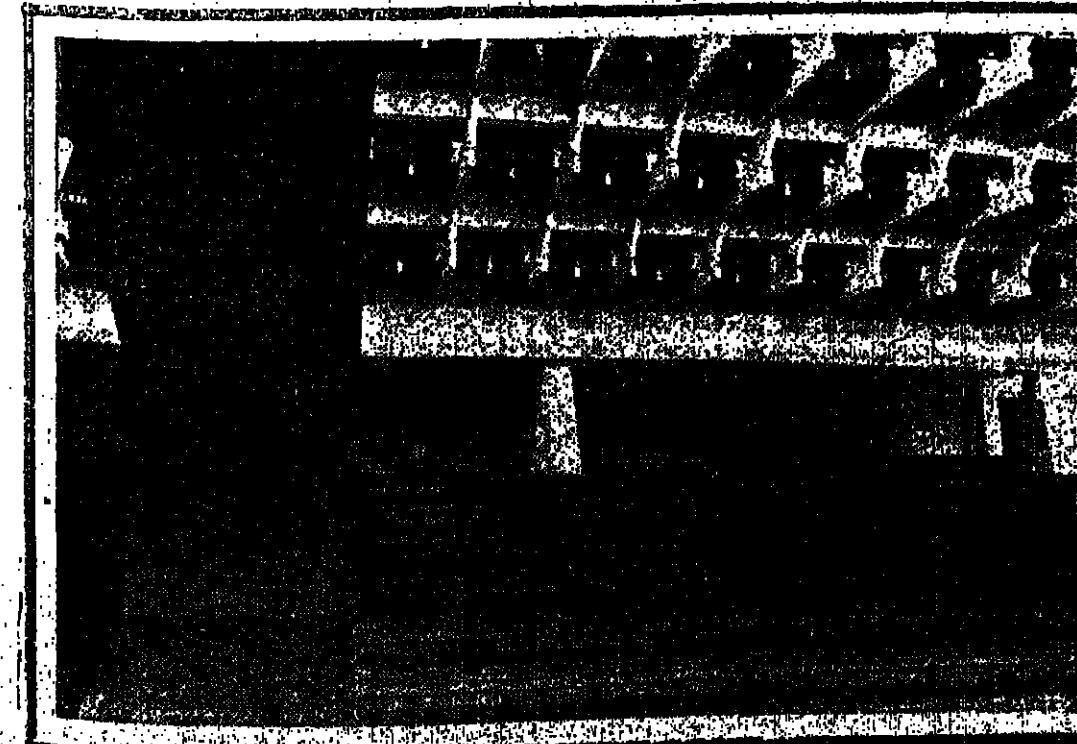
progress ambitions were annihilated by Ottoman and Tartar invasions or by the great fire of 1883. The flourishing periods of this town, famous for its trade and fair saw at relatively short intervals various declines. The 1944 bombing greatly affected the urban space,

posed of the Someş river with a major highway on both banks, ensuring a connection among the already existing four bridges. The Historical Centre and the New Centre — shaking hands over the river — will be in perfect harmony.

THE UNIQUE STYLE

The historical centre of the town, however, with its old, rare, buildings (not very many) in the neoclassical, late baroque or neo-romantic style. I asked this man who guided us through the Civic Centre — the present and future one — whether his architectural style had a name. "It is not a style — it is unique. Nothing is imitated, everything is transformed," he answered. Architect Nicolae Porumbescu is the author of the Civic Centre, of the seat of the Assembly, of the Cultural House in Satu Mare and of the Civic Centre in Dej. He is the author of these creations, resembling the style, but they all speak about their creator.

Nicolae Porumbescu has been a professor at the Architecture Faculty in 1951. For 15 years, during his teaching career, he has been the country's most important teacher. He has been a member of the Academy of Sciences and Letters of the Romanian Republic. He has been a member of the Academy of Sciences and Letters of the Romanian Republic. He has been a member of the Academy of Sciences and Letters of the Romanian Republic.



Text written by YVONICA CIOABAGIU Photos by MARTIN SARCA

MULTIPLE TRAINING LABS

For several years now, in early spring, the memory of scholar Spiru Haret, the organizer of modern Romanian education, is honored by the pupils of the high school bearing his name through the holding of sessions of scientific reports and papers.

This year, the scientific session staged at Spiru Haret high school in Bucharest happily coincides with the publication under the aegis of the Museum of Romanian Literature of a supplement of the *Manuscriptum* review comprising Mircea Eliade's first novel — *Românul*

papers are those referring to the remote-controlled robot built by pupil Adrian Căile as part of his hands-on training at the measure and industrial electronic apparatus enterprise; the water delamination device (which is proposed to become a teaching aid) achieved by pupil Cristian Popa; the laser-assisted electrostatic pendulum for sensing seismological tremors, a complex work achieved by pupils as part of a joint research program with the specialized chair of the Physics Faculty of the Bucharest University.

Other works too, of the nearly 70 presented, stand out

through their originality and high degree of applicability. But to reach this stage, the pupils' ideas took many hours of peeling through heated debates in the scientific circles — real multiple training labs.

"It was precisely to this end, of polytechnizing and training the pupils many-sidedly — said teacher Elena Panaitopol, "that we have undertaken to introduce pupils to the use of computers. In fact, we have created sets of programmes for a number of subjects: (mathematics, physics, chemistry, technology) to be used in the computer-aided education."



CAMPS... TO BE CONTINUED

Over the last two years, national camps of informatics for high school students have been organized at Tirgu Mures.

It is not easy to play host to such an event. A fact admitted even by professor Stefan Benia, general inspector of the country school inspectorate. However he added that by organizing such camps the hosts had been spurred to modernize substantially the material base of education and professors to improve their training, according to the new equipment.

Prompted by professor Benia, I visited several schools in Tirgu Mures. Local professors of mathematics had gathered at High School No 2 for an exchange of experience on the use of computers. On that occasion presented was the Linsir program (limits of roots), what scenario was signed by Stela and Eugenia Nemesan. Let us introduce them to you.

Stela Nemesan is a mathematician professor and director of the above-mentioned high school. At the same time she is a tireless advocate of the idea of computer-aided education. Her wife Eugenia Nemesan, also a professor, teaches mathematics at High School No 5. She spoke to us about some of her students. I found Dan Samarin, an eleventh grader, in the informatics room checking time and again the arithmetical progression program on which he had started to work last year. Significant is that many of the pupils who had been less interested in the study of mathematics joined this serious game with the advent of computer. And the results were to be seen in the marks they all received.

In the informatics laboratory of the Iuliu Parvulescu high school (it learned that it was only a provisional stage, the future, ultramodern laboratory being under construction) there were two students, Adrian Gymer and Iulian Bălan, both of them twelfth graders. They were busy over a display. From time to time they took down notes in their copybooks. I was indeed surprised to notice that they still had time for the computer despite the all-important exams waiting for them upon graduation. Actually, they were preparing for the exam: how to simulate the Millikan experiment. I shall not enter into details. Suffice it to say that the two students were pupils of the "Linsir" school-leaving paper.

Professor Danilă, director of the Papiu Ilarian high school does not teach only physics but also the physics of informatics. The alphabetization stage (in the modern sense, inspired from the reservation of the literate of the 19th century) will be the one which motivates him. In a computer language (has long been overcome. It has been overcome by his students. Even if he is not completely satisfied with the scientific work. Naturally, he chooses the best.

One of them, Theodor Gălbă, was among the winners of the national contest of young scientists. The alphabetization stage (in the modern sense, inspired from the reservation of the literate of the 19th century) will be the one which motivates him. In a computer language (has long been overcome. It has been overcome by his students. Even if he is not completely satisfied with the scientific work. Naturally, he chooses the best.



NURSING HIGH SCHOOLS

The Romanian medical educational network comprises besides higher training establishments also numerous medium schools distributed in localities throughout the country.

The auxiliary high school in Bucharest lying in the vicinity of large hospitals and health care units in the Fundeni area is one of the biggest schools of this kind.

This academic year, the high school has 48 classes of pupils coming from Bucharest and the whole country, just like from West Germany, Italy, Switzerland, Israel, Congo, Sudan, etc. Throughout the four schooling years, the pupils

acquire general and specialized training as future nurses, laboratory assistants, dentistry biological laboratory assistants, cosmeticians, electrical mechanics for the maintenance and repair of medical equipment.

The specific training is achieved through courses in theoretical subjects (internal medicine, surgery, anatomy, paediatrics and perinatology) as well as through practical training classes held in demonstration halls, pharmacy and dentistry labs, medical apparatus maintenance workshops and the great university clinics of Bucharest.

The photo shows a practical pharmacy class.



SCHOOL CONTESTS IN THE FINAL STAGE

The all-country phase of school contests by subjects and trades takes place during the pupils' spring holiday.

Professor Constanta Darbol, DSc, deputy director in the Ministry of Education and Instruction, offered us a few details in this respect.

"After successively entering the school, locally and county rounds of the school competitions, a final 2,655 pupils have emerged out of hundreds of thousands of participants, who will contend for supremacy in the Romanian language and literature, Latin, modern languages, Magyar as a mother tongue, German as a mother tongue, mathematics, informatics, physics, chemistry, biology, Romania's history, geography, political economy, philosophy. Moreover, 320 pupils will compete to come off best in the trades for which they are trained in high schools (mechanics, electrical engineering, construction, art, nursing, woodworking, light industry, metallurgy etc.)."

ANNIVERSARY

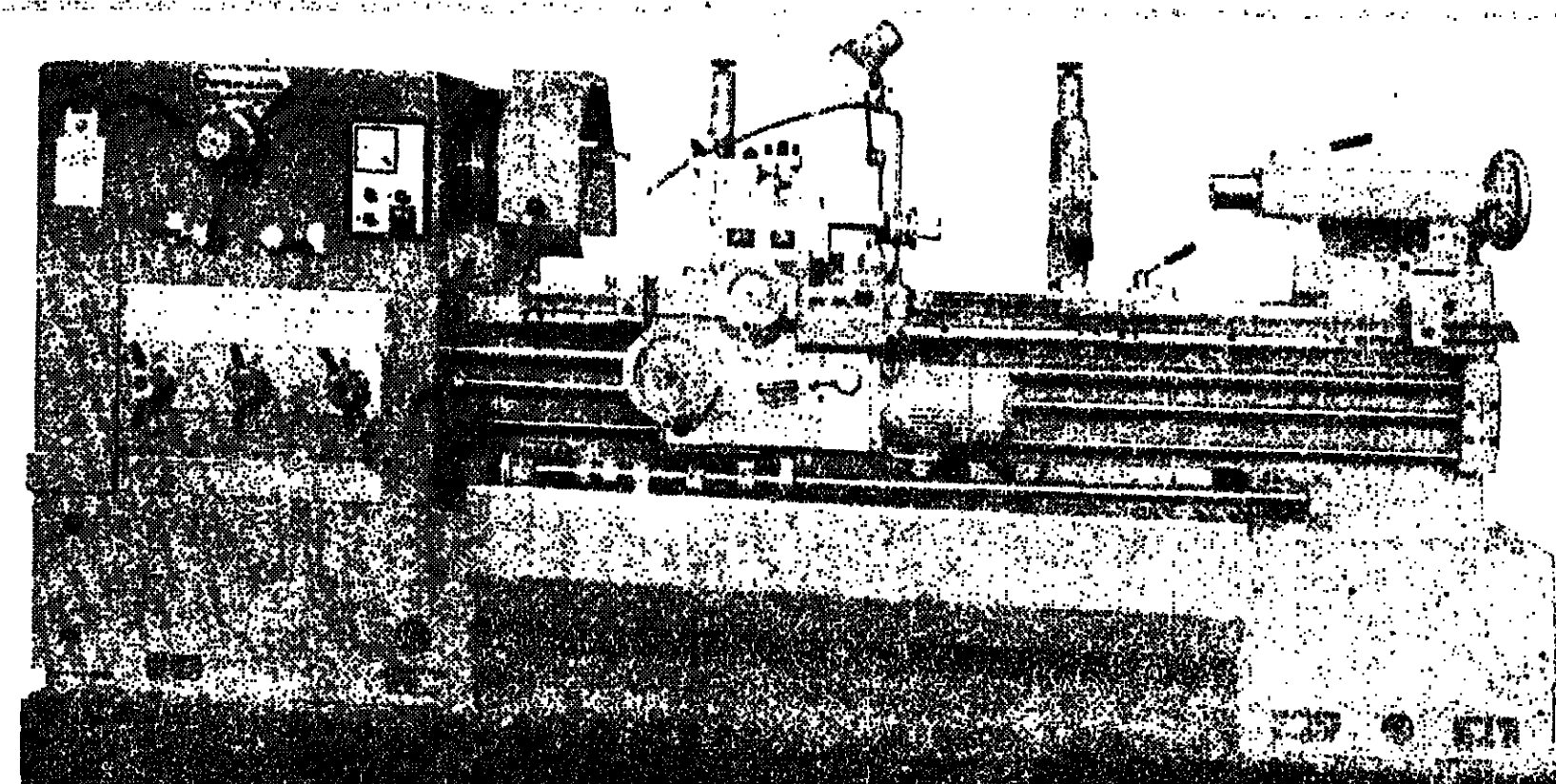
Coriolan Brediceanu high school of Lugoj has recently celebrated its 130 anniversary. The representatives of older or more recent classes meeting on the occasion could notice the renewal undergone by the high school. The specialty rooms, labs, hands-on training workshops, the library were sure to arrest their attention. These facilities make up the daily workplace of hundreds of pupils and an elite teaching staff, as the Lugoj school has always boasted.

Confirming the school's high value is the large number of pupils having enrolled in the school olympic contests to start on April 11.



ROMANIAN NEWS

FREE
SUPPLEMENT
TO NO
14 (523)
APRIL 8
1988



RECOMMENDS THE FOLLOWING PRODUCTS:

- Horizontal or vertical spindle machining centres
- Lathes with swings ranging from 320 to 2,500 mm, and the distance between centres from 750 to 15,000 mm
- Single spindle automatic lathes of 16 to 60 mm
- Turret lathes 32-80 mm
- Vertical boring and turning mills with diameters from 1,400 to 16,000 mm
- Special purpose NC lathes
- Oil country lathes
- Copying lathes
- Horizontal boring and milling machines with diameters from 63 to 225 mm
- Planomillers with 660 to 3,500 mm table widths
- Knee-type milling machines (universal and vertical)
- Gear cutting and gear hobbing machines
- Universal toolroom milling machines
- Universal milling machines
- Grinding machines (universal, internal and external)
- Surface and centreless grinding machines
- Internal and face grinding machines
- Guide-way grinding machines
- Tool and cutter grinders
- Drilling machines
- Radial drilling machines
- Jig boring machines
- Universal head radial drilling machines
- Adjustable multiple-spindle drilling machines
- Internal threading machines
- Shaping machines with 425-800 mm strokes
- Circular and hack metal cutting saws
- Ball flashing and lapping machines
- Hydraulic press brakes
- Inclined automatic presses
- High precision mechanical presses
- Hydraulic presses
- Stamping presses
- Deep-drawing presses up to 4,000 t
- Profile and section shears
- Roll plate bending machines
- Guillotine shears
- Combined shears
- Forging hammers
- Honing, broaching and slotting machines
- Automatic machining lines
- Automatic assembly lines
- Aggregates and other machines according to technical projects
- Machine-tool accessories
- Tools and hand tools.

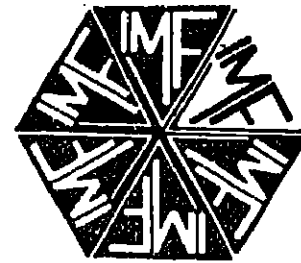


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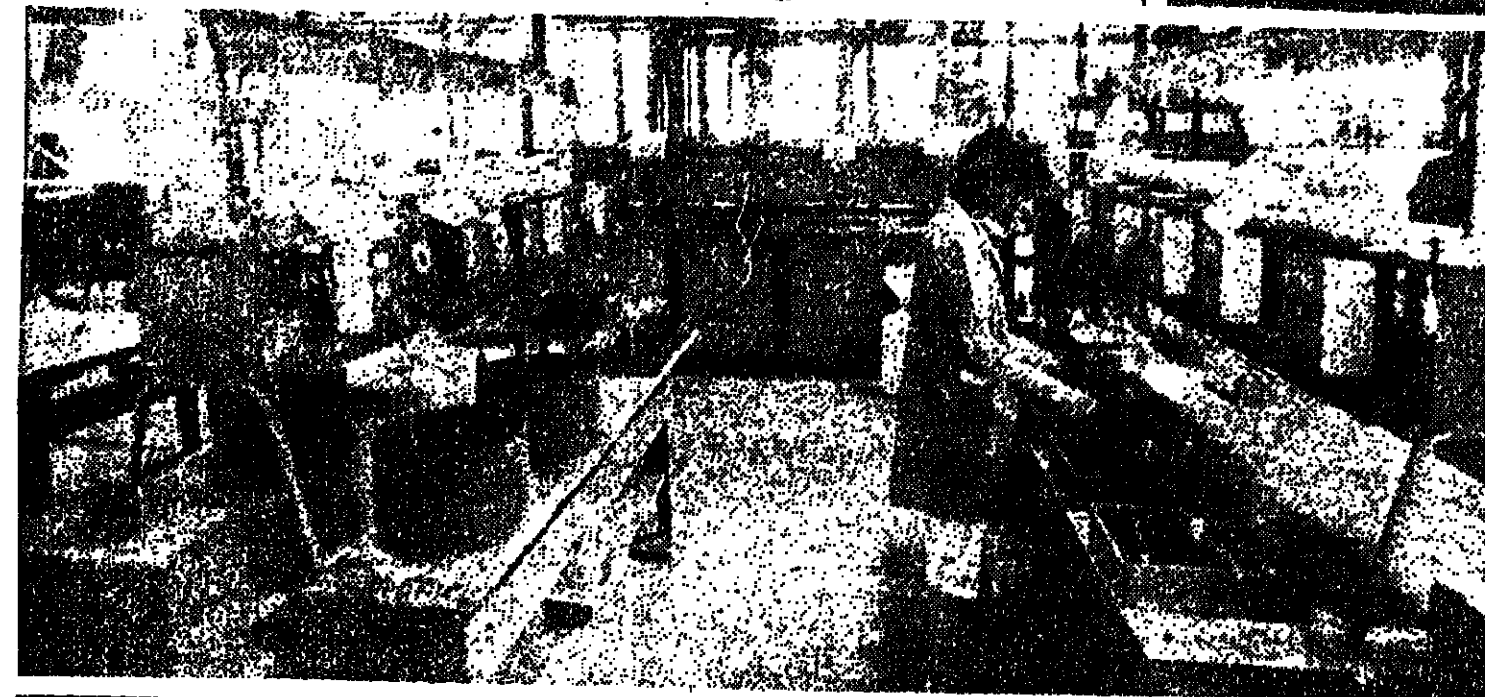
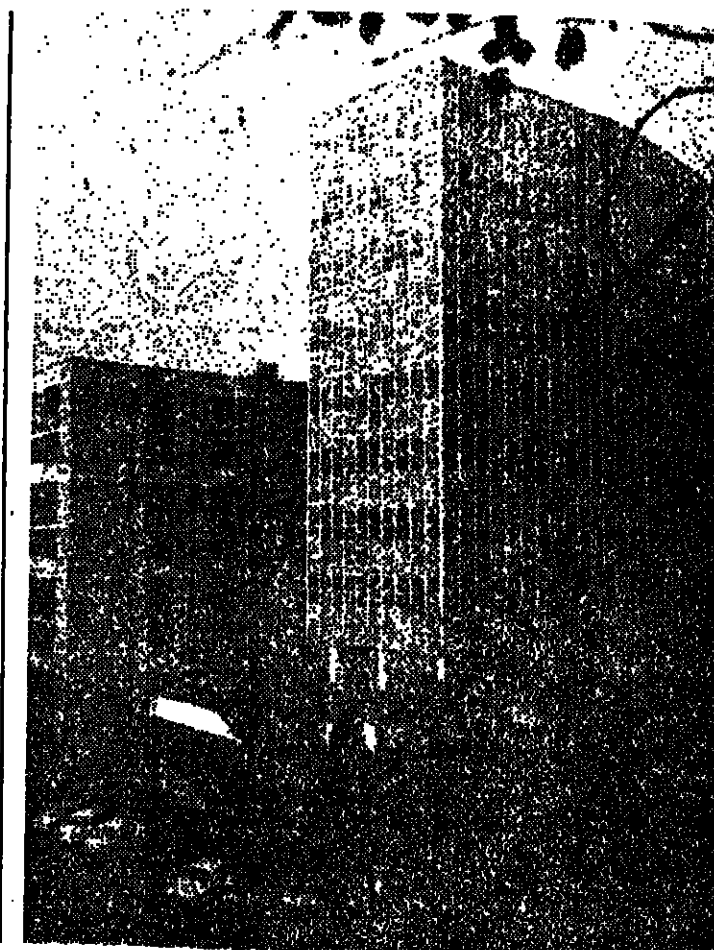
These products made by prestigious enterprises (the Bucharest Machine Tools and Aggregates Enterprise, the Craiova Heavy Equipment Enterprise, "SAR" Lathes Enterprise in Ilfov, the Machine Tool Enterprise in Bacău, the Cluj-Napoca Rectifying Machines Enterprise, "Infrairea" Oradea, the Mechanical Enterprise in Sibiu, the Arad Machine Tools Enterprise) have become famous through their quality and reliability on all world meridians. Various tests made on the occasion of international exhibitions and fairs and the numerous demands in markets like Japan, West Germany, India, USA, USSR, etc., eloquently prove these affirmations.

THE FINE MECHANICS ENTERPRISE



The Fine Mechanics Enterprise of Bucharest, one of the big producers of measuring and gauging fixtures in Romania, offers high-accuracy devices for the measuring of external, internal, circular and flat dimensions, gear, surfaces and angles. Its manufacturing programme includes dial gauges and micrometer calipers with dial indicator, direct-reading and comparison measures

for bore-holes, passmeters and level micrometers, thickness measuring devices, gear pitch error and thickness measuring fixtures, protractors and supports and accessories for these devices. Length measuring devices meet world quality standards and can compete with similar products made by traditional firms.



ensure dimension accuracy, economy of time, giving automatic orders according to the programme.

The vocation for top performances in the twelve enterprises of the CIMF is solidly grounded on the activity of its own Institute of research, design and technological engineering for fine mechanics and tools. A real centre of technical and technological creation, the Institute supplies ideas and solutions to productive departments staffed with high-skilled workers and technicians able to impart the highest quality to each product. The direct relationship between research and production, the continuous flow of information between those who design and those who execute provide the guarantee for the high technical level and accuracy of the measuring and control devices produced by the CIMF enterprises.

MEASURING AND CONTROL INSTRUMENTS

MEASURING AND DIMENSIONAL CONTROL INSTRUMENTS

- dial indicators
- bore checking and control instruments
- comparator instruments
- gear measuring instruments
- angle measuring instruments and apparatus
- surface measuring instruments
- supports and accessories for measuring instruments

APPARATUS FOR ACTIVE AND PASSIVE CONTROL BASED ON MODERN PRINCIPLES

- active control instruments for universal and surface grinding machines
- passive control instruments with electric contact and pneumatic transducers
- electronic apparatus for rugged control

The range of products includes 838 distinct families totalling some 22,000 standard sizes. Of them, 80 families of products have been assimilated of late, the share of the new and redesigned products being of over 20 per cent.

In order to achieve its programme, the Fine Mechanics Enterprise adopted and improved the latest technologies specific to each family of products. One of the many possible examples are the diamond wheels with galvanic bond for processing a wide range of materials. Starting from the technology bought from the Winter company of West Germany, the Fine Mechanics Enterprise has achieved almost twice as many families of diamond wheels than the licence initially contained. Among its performances we could mention the wheels for the electronic industry used for cutting integrated circuits, transistors and thyristor plates. The width of the cut is only 0.38 mm, which substantially reduces the waste of expensive materials resulting from cutting. We could also mention the diamond wheels with galvanic bond used for cutting synthetic resins, the wheels for processing sintered metal carbides, etc.

The fruit of the Fine Mechanics Industrial Centre's creative efforts is the active control devices used directly on machine tools. Intelligent devices equipped with electronic blocks and feelers, they



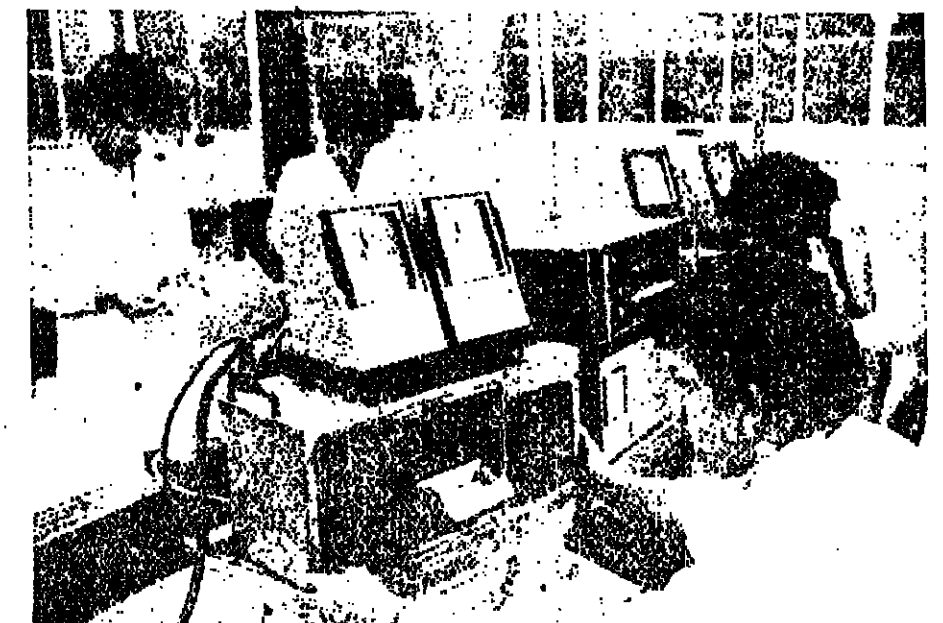
REMEMBER THE IMF TRADEMARK



IMF is the mark you can see on all products turned out by Intreprinderea de Mecanică Fină (The Fine Mechanics Enterprise) in Bucharest. The fabrication programme of this enterprise which is one of the most modern in Europe includes the following groups of products:

• apparatus and mechanisms of industrial horology • apparatus for the control of thermotechnical magnitudes • automation elements for regulating pressure and temperature • tools, devices and matrices • products of sintered metal carbides.

Superior accuracy parameters, high technical standard and complexity, a wide range of applicability, endurance, highly efficient constructional elements — these are some of the features boasted by the dimensional control and measuring instruments and apparatus and of the tools bearing the IMF mark. Do not forget: they impart superior functionality, maximum safety of operation, great productivity to your machinery and installations, and a high quality to your products.



HAND TOOLS, DEVICES AND MATRICES

DIAMOND TOOLS

- diamond tools monocrystalline and polycrystalline
- diamond tools for processing grinding stones
- diamond wheels with metal and organic bonds for processing hard and extra-hard materials
- metal-bonded diamond tools for special processing
- diamond drawing dies
- diamond pastes

ON THIS PAGE:

- vertical micrometre with electronic counter
- electronic speedographs for locomotives
- impulse electronic counter for counting machines
- projector microscope checks

ON THE ADJOINING PAGE:

- View from the galvanic workshop of the diamond tools section
- View from the length measuring and control apparatus section



MANUFACTURER: THE FINE MECHANICS ENTERPRISE

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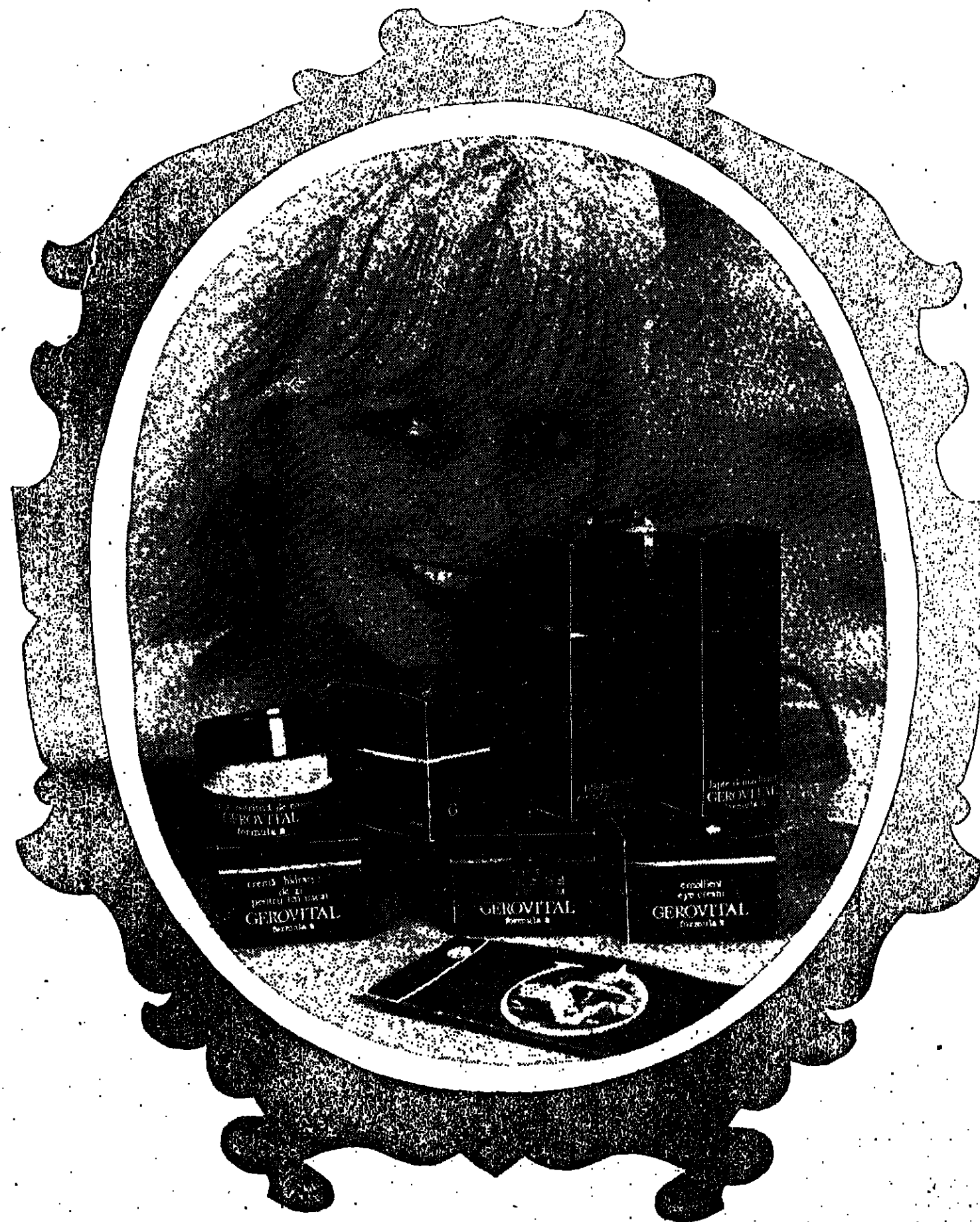
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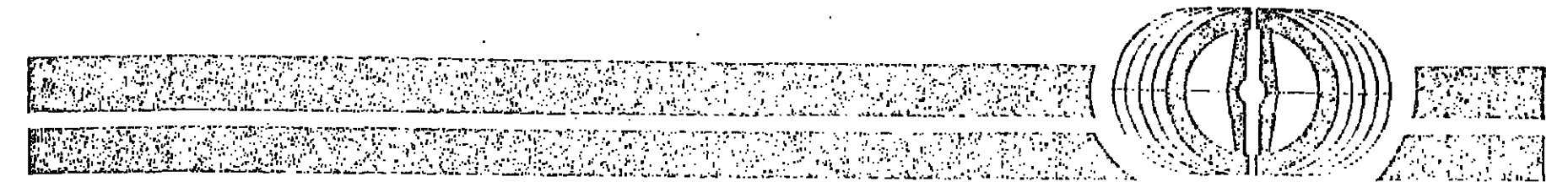
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● ASI three-phase asynchronous motors: output: 0.25-90 kw; voltage: 220-660 v; frequency: 50-60 cycles; squirrel cage rotor; mounting arrangement: B3 (DIN 42673) or B5 (DIN 42677); protection: IP44 (DIN 40050)

● AFI three-phase asynchronous motors: output: 5.5-90 kw; voltage: 380 v; frequency: 50-60 cycles; wound rotor with permanently applied brushes; mounting arrangement: B3 (DIN 42673) or B5 (DIN 42677); protection: IP44 (40050)

● ASA explosion-proof motors Ex d3n.G4: output: 0.8-90 kw; voltage: 220-660 v; frequency: 50-60 cycles; squirrel cage rotor; protection: IP54

machines, vacuum cleaners, fans, coffee grinders

● Single-phase electric motors with centrifugal starting relay, 1 or 2 speeds, 0.25 kw/1,500 rpm, 220 v

DC motors: MCG type - for general appliance; output: 4 kw-280 kw; MCU type - for machine tools; output: 3.25 kw-200 kw; MII motors MCM type - series 802-808; output: 3.7 kw-75 kw

DC motors with axial air gap and disk rotor, output: 180 w/370 w; 750 w; 1,200 w; 1,500 w; 2,200 w; 4,000 w; 5,530 w

● Welding converters: CS 125 A, CSCA 250 A, CS 315 A,

CS 350 A, CS 3 (250 A), CS 5 (500 A)

● Welding sets with Diesel engine - GST 350 A, GST 500 A

● General sets powered by Diesel engines, stationary or mobile: 4 kva; 7.5 kva; 10 kva; 15 kva; 20 kva; 38 kva; 80 kva; 125 kva; 150 kva

● Synchronous generators: 231 and 400 v, 50-60 cycles, of: 5 kva; 6.2 kva; 7.5 kva; 15 kva; 30 kva; 38 kva; 40 kva; 50 kva; 80 kva; 125 kva; 150 kva

● Medium-frequency converter sets: GEF-AV, 50 kw, 8,000 Hz; GEF-AV, 56 kw, 8,000 Hz; GEF-AV, 100 kw, 8,000 Hz; GEF-AV, 110 kw, 8,000 Hz; GEF-AV, 125 kw, 2,500 Hz; GEF-AV, 300 kw, 2,500 Hz; GEF-AV, 300 kw, 8,000 Hz

● Distribution transformers: rated power: 25-1,600 kva, rated voltage: 6-35 kv

● Power transformers and autotransformers: rated power: 2,000-400,000 kva; rated voltage: up to 400 kv

● Medium and high-voltage

circuit breakers: a) small oil volume, type IUP, rated voltage: 6-35 kv and 110 kv; symmetrical breaking capacity: 250-3,000 Mva; b) small oil volume, type IO (Delle Alston-France licenza); rated voltage: 6-20 kv; symmetrical breaking capacity: 250-500 Mva; c) ditto for the rated voltage of 66, 110, 220 and 400 kv; d) air contactor type CAM, 6 kv, 100 a

● Disconnecting switches: a) Indoor use (SMI-STI); rated voltage up to 35 kv; rated current up to 6,300 a; b) outdoor use (SME-STF-STEF); rated voltage up to 400 kv; rated current up to 1,600 a; c) indoor load break switches, type STIS; rated voltage up to 20 kv; breaking capacity up to 7 Mva; d) pantograph type PHAF-1-10/2000

● Instrument transformers: a) current transformers: 1. plastic insulation (types CIS, CIO); 2. synthetic resins (type CIR); rated voltage up to 35 kv; for indoor use; 3. ditto, types CIR, CIRTO, CIRTI; 4. oil type (CESU and CESI); rated voltage up to 400 kv; for outdoor use; b) voltage transformers: 1. synthetic resins (type TIRMO, TIRBO); rated voltage up to 38 kv single



or double phase build for indoor or outdoor use; 2. all types (TEMU-TEBU and TECU) rated voltage up to 400 kv single or double-phase build for outdoor use

● Medium-voltage fuses: rated voltage up to 35 kv; rated current up to 100 a; indoor use (type FI); outdoor use (type FE)

● Prefab cells for indoor use for transformer stations up to 20 kv

● Indoor lighting fittings for fluorescent lamps

● Street lighting fittings for mercury lamps

● Lighting fittings for motor vehicles

● Lanterns

● Accumulators

● Electric hand tools

● Electric refrigerators with compressor

● Electric home appliances: washing machines, oil radiators, electric hot plates, flat irons, vacuum cleaners, hair driers, electric coffee grinders, turbine radiators, window fans, table fans, attachments set for MG4 drilling machines, other electric heating appliances, household electric pumps

● Electrolinsulating materials: textolit; sticlotextolit a.o.

● Electric cables and conductors: Aluminum conductors for overhead lines; Steel-core aluminum conductors; Rubber-insulated-shathed flexible cables, type NLH, NMH, NSH; Copper and aluminum PVC insulated conductors according to DIN-BS-NF-VDE; Telephone cables; Signalling cables; Copper and aluminum power cables, armoured and non-armoured, of 1.5 and 10 kv; Insula-



tion: PVC, polyethylene or paper (mass-impregnated and mass-impregnated-non-draining)

● Equipment for electrotechnical industry manufactured in one piece or small series

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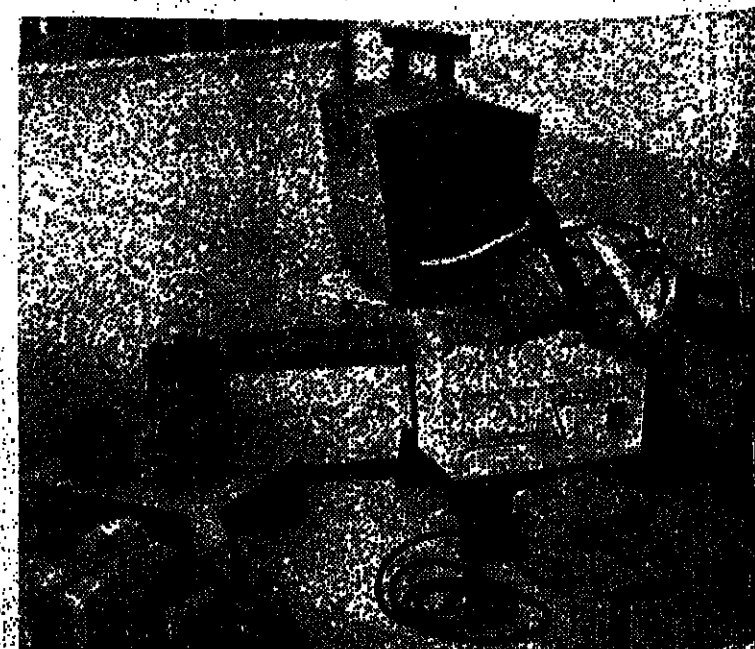
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(40050) for operation in explosive ambience

● Three-phase asynchronous motors of large output: output: 110-1,000 kw; frequency: 50-60 cycles; squirrel cage rotor; low voltage: 220-660 v; MIB & MAB; high voltage: 3.3-6 kv - MIB & MAB; MUB & MEB; wound rotor; low voltage: 220-660 v - MIF & MUR; high voltage: 3.3-6 kv - MIP, MAP, MUF & MEP; mounting arrangement: B3 (DIN 42673) and B5 (DIN 42677); protection: IP23 or IP44 (DIN 40050)

● TAM three-phase asynchronous motors: output: 0.25-7.5 kw; voltage: 220-300 v; frequency: 50-60 cycles; squirrel cage rotor; mounting arrangement: B3 (DIN 42673), B5 (DIN 42677) and B14 aluminium casing

● Single-phase electric, fractional-horse-power motors for washing machines, 2/12 poles, 2/16 poles; refrigerators, sewing



● Reactance coils, type BR

● Winding machines for transformer coils

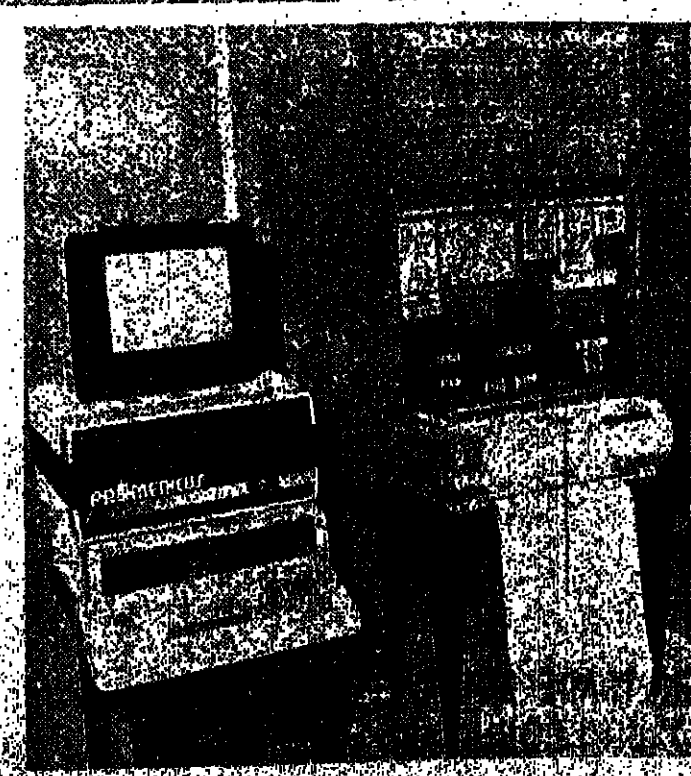
● Power capacitors: a) mineral oil (type CU); rated voltage: 0.380-0.500 kv; rated power: 10-15 kva; three phase build indoor mounting; b) chlorinated oil, type CS; rated voltage: 0.380-0.500 kv; rated power: 15-20 kva; three-phase build; indoor mounting

● Low-voltage gears for industrial purpose and housing installations (contactors, relays, circuit breakers, push buttons, normal fuses, transformers, high rupture capacity low-voltage fuses, switches, sockets etc.)

● Lifts

● Dry cells and electric batteries

● Lighting sources (high pressure mercury vapour lamps, gas bulbs, fluorescent lamps, standard incandescent lamps, solid-state for mercury and fluorescent lamps, starters)



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FIRST CHARGE

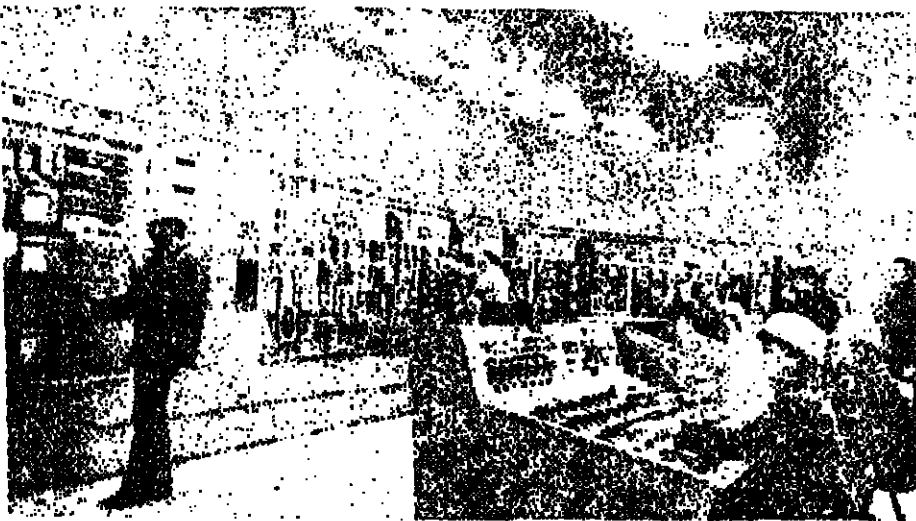
On the evening of March 31, furnace No. 6 of the Galati Iron-and-steel works — the largest in the country — turned out the first charge of pig iron, after the completion of capital repairs. The event is a record in this field, since the effective duration of the repairs — an absolute first with a furnace of such capacity — was of barely four months.

The capital repairs of furnace No. 6, having a working volume of 3,500 cu.m., were carried out by thousands of constructions, mainly from the enterprises for iron-and-steel construction, assembly and repairs of Galati. Mentionworthy is the fact that on the basis of the technical solutions worked out by the designers of IPROMER Bucharest and of the Institute of Manufacturing Researches and Developments for flat products and metal-rolling of Galati during the repairs the furnace also benefited by a number of improvements which will enhance its technical, functional and economical parameters, thus leading to a bigger pig iron production. This first wide-scope experience will soon be followed by similar works conducted on other pig iron and steel producing units of the plant iron-and-steel works. (Right).



ELECTRONIC POSTAL SERVICE

At present, the researches of the experts in the laboratories specializing in computer systems have focused on the technical and technological aspects of services such as: videotext, data transfer, electronic post etc. In Romania, in the field of electronic post the CORA software product has been created, which ensures the conveyance of letters among subscribers as well as the access to information of general interest. It operates in keeping with the post-restante principle: a letter can be sent to one or several addressees, upon the subscriber's request. The benefits deriving from this system consist in an increased delivery speed as compared to the classic postal service, a selective consultation of the correspondence upon request, the possibility of multiple dispatch. The CORA system subscriber can be a person or a socioeconomic organization.



LONG-DISTANCE TELEPHONE CONNECTIONS

A new locality has recently been connected to the long-distance pay phone circuit. We are referring to Darmanesti (Iasi county) — a petrochemical centre which has seen a considerable economic and social development in the last few years.

Since the beginning of this year, three other rural localities — Prundu Ibrailului (Ibraitul county), Negresti (Vaslui county) and Livezile (Cluj County) have been provided with long-distance pay stations. A number of 353 Romanian localities have been connected to the long-distance payphone circuit so far.

ONE MORE SHIP

The shipbuilders of Braila have completed a new order. They launched the last of the series of oil tankers meant for the Romanian fleet. This is the second ship in a longer series: it has a displacement of 5,000 dwt and incorporates Romanian designed and built parts and subassemblies in a proportion of 85 per cent. Also, the second 4,000 dwt multipurpose tanker meant for foreign beneficiaries has left on its first commercial journey.

THE SOURCES OF ALUMINIUM

The enterprise of aluminium oxide in Tulcea — the main raw material supplier of the "colossus" of Romanian aluminium at Slatina — has recently created a central control system which supervises the most important production stages by means of TV cameras, thus allowing of prompt interventions in various situations.

But the modernization drive goes on. The other day specialists commissioned the first varying-speed motor driving the pump of the filter installation. It saves 15-20 per cent of the electric power consumption needed by the respective installation.

At the same time an original technology processing conveniently two types of bauxite started to be applied. This method helps increase the extraction efficiency to a great extent.

For the upcoming period, the enterprise of aluminium in Tulcea plans to improve other technological processes, optimize better on subsidiary energy materials, improve the burning system of the calciner and reorganize production to the effect of saving 2,000 t of conventional fuel and 1,000 t of bauxite. (Photo above)

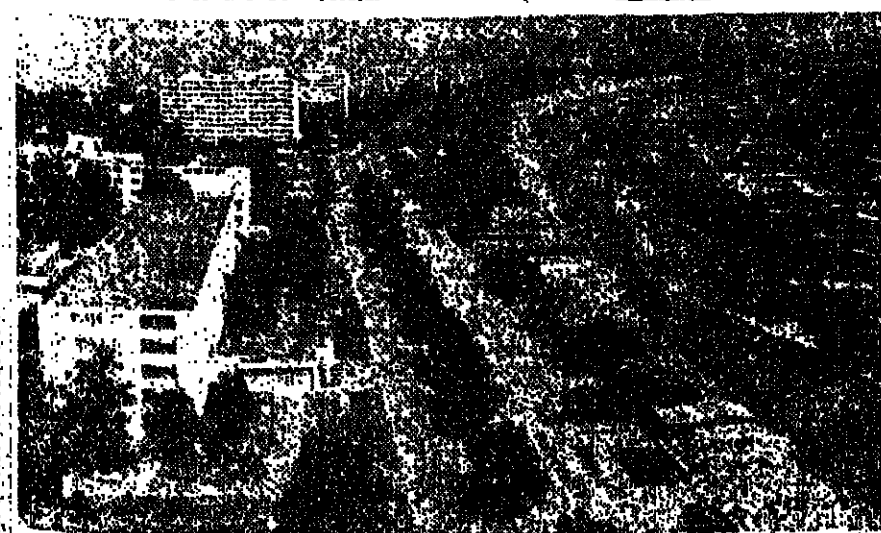
One of the wells of the Bileci productive oilfield has successfully tested the rod-pumping rotor. The use of this apparatus in crude extraction installations enhances production and removes the risk of the rod getting unscrewed during the pumping. Moreover, the use of the rotor prolongs by 30-40 per cent the life of the deep pump, while the uniform wearing of the piston-cylinder unit makes it possible to recondition it. On the basis of this test, the Mechanic Enterprise in Cluj-Napoca has built and delivered for export the first batch of rod-pumping rotors.

At the Moldovin Synthetic Yarn Plant in Vaslui (which was integrated to the economic flow of the country ten years ago), the fabrication process uses the electronic computer in flows and in the gestion of materials. High-productivity solutions and procedures — such as the fast spinning of the polyester fibre at up to 3,400 m per minute speeds — which are able to achieve an increase in the mechanization and automation of production, which have now become part of the daily reality.

At the Moldovin plant in Vaslui over 100 types of polyester fibres are produced, with higher physical and mechanical characteristics. (See the photo above)

COMPUTER-AIDED DIAGNOSIS AND THERAPY

The Institute of Computer Technology and Informatics in Bucharest, in collaboration with the Borsas town hospital, has made a computerized system called MEDAT for the purpose of storing the patient's data necessary to the doctors for examination, diagnosis and prescription of a treatment. MEDAT offers at the same time the opportunity to get complex information on the patient's condition both before and during the hospitalization. Microprocessors and computers have found applications in the field of investigation instruments. Ever more instruments incorporating "computer" technology can directly receive data from the patient, analyzing, processing them and being able to provide an exact diagnosis. Such a system meant for the optimization of the treatment by radiotherapy is being made at the Radiotherapy Clinic of the Cluj-Napoca Hospital in Dej, by a group of researchers from the Institute of Computer Technology in collaboration with the specialists of the clinic.



SUMMER PRELUDE

Preparations for the opening of the summer season have reached a final stage at Mamaia, the popular Romanian Black Sea coast resort.

Works carried out in the period elapsed since last autumn have mainly been aimed at repairing or refurbishing certain tourist facilities amounting for an investment volume worth more than 25 million lei.

The comfort of Sulina and Lotis hotels has been improved, the Insula Ovidiu res-

taurant has been rearranged and the Meridien, Elton, Naptura, Diana and Apollo hotels have undergone facelifts.

The resort's management has had 2,500 municipal electric and 1,000 200-watt summer houses, 2,500 rooms and 10,000 metres of hedger planted, so that the landscape of the Romanian Black Sea coast may, in this summer, more beautiful and hospitable than ever.



SHORT HOLIDAY

Tomorrow, April 9, primary, secondary and high school pupils will take a short holiday. Until April 12, when school begins again, camps for children and youth will be organized in tourist localities in all counties.

Both for parents and for the other people, the vacation and the school year will be a pleasant surprise, with the beginning of the spring holidays.

THE BOIU PUMPS

The folk inventor was born several thousand years ago into a family of farmers, hunters or animal breeders. He attended along the millennia — all the schools of life.

Guided by his inquisitive mind, he discovered and invented continuously and bequeathed to us: the fire, the wheel, the weaving looms, the windmills, the sky and earth maps, metal-urgy — which propelled us to this ever-lasting iron age — mining, the gunpowder (what a pity!), irrigations and mechanical herds.

By the 20th century came and the star of the folk inventor started going down, as this century has brought along the factories, the laboratories, the technical institutes. It has legislated curiously and conferred a university diploma on it. Owing to this diploma, the folk inventor seemed to have been sentenced to intellectual death.

But being a folk inventor, as we said, and using the brains of several million people, he had not died or has not died completely, or has come to life again, however you wish to put it, but surely he still exists, even in the height of the electronic or atomic era. "What do you think", I asked not long ago the famous director of a not less famous research institute, "can discoveries be made outside laboratories?" "Definitely not", came the answer like a gull's cry and there followed a gust of theoretical arguments of a tremendous practical consistency: the numerous highly valuable licenses devised at the very institute I am speaking about.

And still... travelling wide and across the country, we, newspapermen often happen to meet with inventiveness, which springs from an uncommon mind and is applied in whatever village, in rather primitive conditions, on not very rigorous theoretical grounds, but which moves, works, helps the people and, besides, exists almost nothing.

Here is an example: The plug pump.

A simple device invented by master Petre Boiu. I have seldom met with such a passionate and obstinate inventor as Petre Boiu. Consider it yourselves: he followed me with devilish tenacity for a few months, he made me hit the road to Pechen commune, in Galati county, to the place where his pump had worked in the '80s and eventually I even came to carry some rusty pieces of iron that had once belonged to the famous Boiu pump to Bucharest, knocking on my own car. A few weeks later, he asked me to the mine of one of his relatives: finished, he said,

I have re-built the pump. In had re-built it in the middle of Bucharest; he had made a kind of false well he took water from with a really touching device: a chain with equilibrium rubber plugs spinning round a hand-wheel which pushed a water column through an ascending tube. But dear readers, with a single handle spinning it can push 14,000 l water per hour.

The reaction to the articles written on this pump: several hundred inhabitants of the communes around Bucharest built by themselves this miraculous plug pump whose price is ridiculously low. And a producer cooperative farm passed on to the homologation and fabrication of the product in small series.

The years passed. Petre Boiu appeared again in magazines with designs which connected his plug pump with driving means using water power, even that of slow or small rivers. In this case, Boiu worked out a kind of watermill which is driven by the water, spins the handle and moves the wheel and the pump chain. At a producer cooperative farm in Arad county, such a pump efficiently irrigates by itself the vegetable gardens.

But our inventor had not yet written the fullstop although he had entered his eighth decade of life; he came up with his great design, that of the crank axle pump. And the Enterprise of Agricultural Mechanics and Food Industry in Bucharest was willing to apply the design of the Boiu 3 pump.

Several months later, a first-

ge installation looking like an old oil derrick, came out, in which a 1 kw motor plus a crank axle which pushes four pipes equipped with valves into the water. The valves allow the water to go through the pipes while the successive strokes push the water column to the end of the pipe, letting it out into a reservoir. The flow was measured with the chronometer: a 1 cum vessel was filled in about 4 minutes which means 15,000 l per hour. Has anybody ever heard of a more efficient pump fitted with a 1 kw motor? Is a higher yield possible with such a simple installation, made up of a metal frame, a ladder, four pipes, two drains and — maybe the most sophisticated part — an electric motor, which is not absolutely necessary as the strength of the arms of a single man is enough to move the device? As far as I know, it is not.

Let us return to the opening lines of our article. The peasant inventor Petre Boiu deserves all our consideration. He has toiled for six decades and struggled to reveal to us the fruits of his mind which come from the inscutable depths of folk technology: simple, cheap, unsophisticated device.

ALEXANDRU MIRONOV ■

THE HOARD OF VADU

On September 9, 1957, in the locality of Vadu, situated on the coast of the Black Sea (the ancient Pontus Euxinus), a team of

archaeologists unearthed an extremely valuable hoard in the old fortress of Armanul Negru. Discovered at the depth of

one metre, the hoard was deposited in a clay vessel. Through its content, it is the greatest premodern hoard ever found in Dobruja — an ancient Romanian territory. It consists of 10 golden coins weighing 63 grams before cleaning and 71 pieces of silver. As the discoverer of the hoard — Sergiu Iosadescu from the Bucharest History and Military Theory Studies and Research Centre — told us, these archaeological pieces cover a rather long interval — from the 11th to the end of the 15th century — being characterized by a surprisingly large variety of emblems: 17 Venetian aquinas bearing the names of animals; all dogs from Nicola di Ponte (1378-1383); 10 ducats of the Padishah of Istanbul, of which the earliest was issued at Hamburg in 1378 — and 23 silver thalers from cities and states belonging to the Holy Roman Empire, five ducats of gold belonging to the United Provinces of the Low Countries and only seven "sultans", gold ducats carrying the insignia of the Padishah of Istanbul. Obviously, such a variety of coins found in a place which used to be a port in the medieval period will change the prevailing opinion about the so-called closure of the Black Sea under the Ottoman authority. The hoard shows clearly, further researches will confirm it, the broad Mediterranean, or the economic prosperity of the peninsula of the Black Sea and, implicitly, of the Romanian Lands by the end of the 14th century. The port of Vadu, where the hoard was buried, had been erected to ease the European passage and provide the Romanian Lands with a large outlet. Maybe this can explain better the economic prosperity of Wallachia under Constantin Brancovan (1688-1714), which offered the Wallachian ruler the possibility of promoting a broad European policy for the maintenance of his country's autonomy and a large cultural openness towards the states of the new Europe. From the where influences entered the official Romanian culture known as the Brancovan style.

CONSTANTIN GHEORGHIU ■

The adjoining images illustrate: The pump inventor Petre Boiu, which has been built in the spirit of the revolution; technical proving quite functional even today (top); Aerial view of the hoard, unearthed in the locality of Vadu, comprising 176 golden coins and 71 coins of silver, which circulated in the part of Romania today on the 18th-19th century.



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Mention should be also made of wool knitwear, fabrics, haberdashery, Moroccan leather goods, etc.

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M. CONSTANTINESCU ■

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FINE ART WORKS

At the Village and Folk Art Museum in Bucharest, an exhibition entitled "The Romantic Discovery of Folk Art" has been organized. It includes watercolours and lithographs from the 19th century (signed by Carol Popa de Sathmar, Prelov, Dica) illustrating peasant costume and images of Romanian village life. Most of them are unknown, they belong to the

collection of the museum and they embody the interest (also in a definition of the national specific character) last century. The exhibition is devoted to the celebration of the years since the death of Cluj painter Carol Popa de Sathmar (1812-1887), his watercolours, drawings and chromolithographs being the most important documentary and artistic nucleus of the event.



organized at the Village Museum.

Carol Popa de Sathmar is one of the Romanian artists personalities with remarkable drawing and watercolour contributions. His academic learning — he studied in Cluj and painted in Vienna and Italy — is prevailingly noticeable in his portraits (Elisabeta Stirbey, Cluj's Portrait, Woman's Portrait, Gheorghe Dimitrie Bilescu) and in his historical compositions (officially commemorated The Parade of the Victorious Romanian Troops, 1811).

Cuza and the Sultan, Plevna after the Surrender). Here the lines are firm, the details carefully observed, we notice an assurance of execution and a graceful atmosphere.

On the other hand, the romantic spirit of the epoch, stimulated by his inquisitive nature, permanently in search of poverty, energy — to name a common places, flows into his landscapes, painted with watercolours, with soft and easy.

C. MARIAN ■
Photo: MIHA CRATOARE ■

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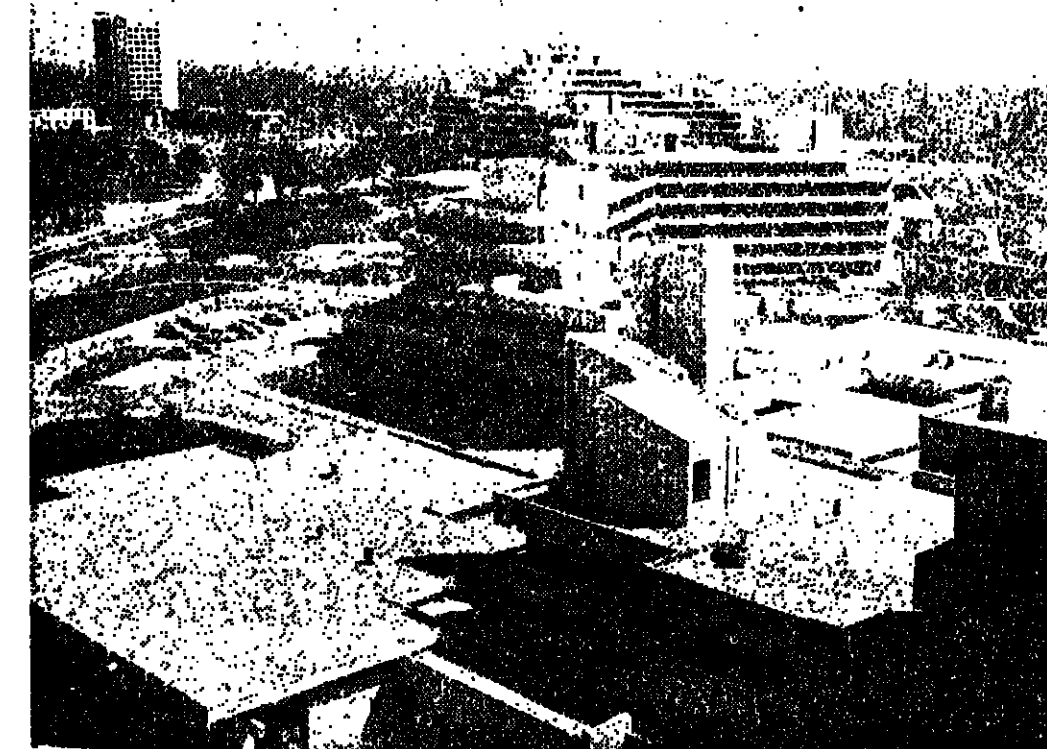
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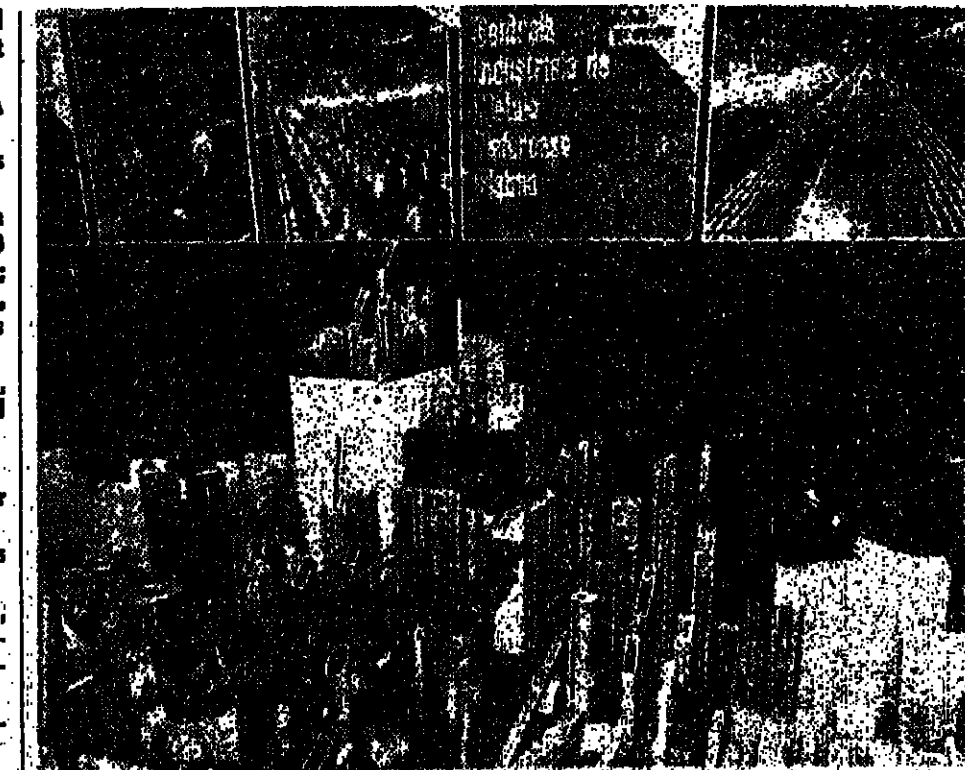
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